WHAT IS CLAIMED IS:

1. A chimeric molecule comprising an angiogenic factor linked to a targeting molecule that specifically binds to a vascular endothelium.

2. The chimeric molecule of claim 1, wherein the angiogenic factor specifically binds to at least one of VEGF-R1, VEGF-R2, or VEGF-R3.

3. The chimeric molecule of claim 1, wherein the targeting molecule is a peptide.

4. The chimeric molecule of claim 1, wherein the angiogenic factor is vascular endothelial growth factor A (VEGF-A), vascular endothelial growth factor A_{121} (VEGF- A_{121}), vascular endothelial growth factor A_{145} (VEGF-A_{145}), vascular endothelial growth factor A_{165} (VEGF- A_{165}), vascular endothelial growth factor A_{189} (VEGF- A_{189}), vascular endothelial growth factor A_{206} (VEGF- A_{206}), vascular endothelial growth factor B (VEGF-B), vascular endothelial growth factor B_{167} (VEGF- B_{167}), vascular endothelial growth factor B_{186} (VEGF-B_{186}), vascular endothelial growth factor C (VEGF-C), vascular endothelial growth factor D (VEGF-D), vascular endothelial growth factor E (VEGF-E), placental growth factor (PlGF), acidic fibroblast growth factor (aFGF), basic fibroblast growth factor (bFGF), or angiopoietin-1 (Ang1).

5. The chimeric molecule of claim 1, wherein the angiogenic factor is Ang2, endostatin or angiostatin.

6. The chimeric molecule of claim 1 that is a fusion protein, wherein the fusion protein comprises an angiogenic factor linked to a targeting molecule that specifically binds to a vascular endothelium.

7. The fusion protein of claim 6, wherein the angiogenic factor is VEGF-B, vascular endothelial growth factor B_{167} (VEGF- B_{167}), vascular endothelial growth factor B_{186} (VEGF-B_{186}), or vascular endothelial growth factor C (VEGF-C).

15. A method of increasing cardiac neovascularization comprising contacting endothelial cells of the cardiac vasculature with a chimeric molecule wherein the chimeric molecule comprises an angiogenic factor linked to a targeting molecule that specifically binds to a vascular endothelium.

16. The method of claim 15, wherein the angiogenic factor specifically binds to at least one of VEGF-R1, VEGF-R2, or VEGF-R3.

17. The chimeric molecule of claim 15, wherein the targeting molecule is a peptide.

18. The method of claim 15, wherein the angiogenic is vascular growth factor A (VEGF-A), vascular endothelial growth factor A_{121} (VEGF- A_{121}), vascular endothelial growth factor A_{145} (VEGF-A_{145}), vascular endothelial growth factor A_{165} (VEGF- A_{165}), vascular endothelial growth factor A_{189} (VEGF- A_{189}), vascular endothelial growth factor A_{206} (VEGF- A_{206}), vascular endothelial growth factor B (VEGF-B), vascular endothelial growth factor B_{167} (VEGF- B_{167}), vascular endothelial growth factor B_{167} (VEGF-B_{186}), vascular endothelial growth factor C (VEGF-C), vascular endothelial growth factor D (VEGF-D), vascular endothelial growth factor E (VEGF-E), placental growth factor (PlGF), acidic fibroblast growth factor (aFGF), basic fibroblast growth factor (bFGF), or angiopoietin-1 (Ang1).

19. The method of claim 15, wherein the chimeric molecule is a fusion protein wherein the fusion protein comprises an angiogenic factor linked to a targeting molecule that specifically binds to a vascular endothelium.

20. The method of claim 19, wherein the angiogenic factor is vascular endothelial growth factor B, vascular endothelial growth factor B_{167} (VEGF- B_{167}), vascular endothelial growth factor B_{186} (VEGF-B_{186}), or vascular endothelial growth factor C (VEGF-C).

21. The method of claim 15, wherein the chimeric molecule is suspended or dissolved in a pharmaceutically acceptable carrier.

22. The method of claim 15, wherein the chimeric molecule is suspended or dissolved in a cell culture medium.

23. The method of claim 15, wherein the pharmaceutical composition is in the form of an injectable solution.

24. A polynucleotide comprising a nucleic acid sequence encoding a fusion protein comprising an angiogenic factor and a targeting molecule, wherein the targeting molecule specifically binds to a vascular endothelium.

25. The polynucleotide of claim 24, wherein the nucleic acid sequence is in an expression cassette.

26. The polynucleotide of claim 25, wherein the expression cassette is in a retroviral vector or an adenovirus-associated vector.

27. A method of inducing angiogenesis in a tissue comprising transfecting an endothelial cell with the nucleic acid of claim 24, whereby the cell expresses a fusion protein encoded by the nucleic acid.

28. A pharmaceutical composition comprising the chimeric molecule of claim 1 and a pharmaceutically acceptable carrier.

29. A pharmaceutical composition comprising the fusion protein of claim 6.